



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,424	07/24/2003	Si Qing Zheng	1285-0129US	9846
24587	7590	03/27/2007	EXAMINER	
ALCATEL USA INTELLECTUAL PROPERTY DEPARTMENT 3400 W. PLANO PARKWAY, MS LEGL2 PLANO, TX 75075			WILSON, ROBERT W	
			ART UNIT	PAPER NUMBER
			2616	
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	03/27/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/626,424	ZHENG ET AL.	
	Examiner	Art Unit	
	Robert W. Wilson	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 24 July 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-24 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/24/03.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application
- 6) Other: _____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 14 & 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (U.S. Patent No.: 5,301,333) in view of Gupta et al (Designing and implementing a Fast Crossbar Scheduler which is an IDS document of record).

Referring to claim 14. Lee teaches a crossbar switch apparatus (10 per Fig 1) for switching a plurality of (n) input queues to at least one output (output port per Fig 1) comprising :

means for receiving request generated by said plurality of input queues (arbiter receives request from inputs per Fig 1)

means for hierarchically resolving which input queue's request with respect to said at least one output should be granted (Fig 2A show hierachial resolving through Figs 3 & 4 (means)

wherein said means for receiving request include a plurality of leaf node that correspond to said plurality of input queue, each leaf node including means for influencing it neighboring lead nod's state if said leaf node receives a grant signal response to a request generated by a corresponding input queue (The tree arbiter per Fig 3 has leaf nodes which correspond to input including means for including the ability to inherently influence state per col. 4 lines 30 to col 8 line 40)

Lee does not expressly call for: plurality of input queues

Gupta et al : teaches input ports have a plurality of queues per Pg 20

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the input port with a plurality of queues of Gupta in place of the input of Lee which will allow the switch to service multiple classes of traffic in the input queues thereby improving the performance.

In addition Lee teaches:

Regarding claim 15 wherein said means for hierarchially resolving which input queue request with respect to said at least one output should be granted comprise a decision tree said plurality of leaf nodes forming a leaf level (Figure 2A is a decision tree with leaf nodes)

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 20 –21 are rejected under 35 U.S.C. 102(B) as being anticipated by Lee (U.S. Patent No.: 5,301, 333).

Referring to claim 20, Lee teaches a method for resolving contention among a plurality of requesting entities (N requesters) with respect to at least one common resource (10 per Fig 1 performs the method) comprising :

Receiving request generated by said plurality of requester, said request being propagated by a plurality of leaf nodes corresponding to said plurality of requesters (The Arbiter per Fig 3 receives a plurality of request requesters per Fig 2A) said request propagated by a plurality of leaf nodes corresponding to said plurality of requesters (Requests are propagated per Fig 2A) Generating by a leaf node that receives a grant signal a control signal for transmission to it neighboring leaf node for affecting said neighboring leaf node's priority (tree structure inherently causes by a leaf node that receives a grant signal a control signal for transmission to it neighboring leaf node for affecting said neighboring leaf node's priority)

In addition Lee teaches:

Regarding claim 21 wherein said operation of hierarchically resolving which requester's request with respect to a said at least one common resource should be granted is effectuated by a decision tree having a plurality of levels that said plurality of leaf nodes form a leaf level (Figure 2A is a decision tree which is used to hierarchically resolve requests with respect to being granted access to an output queue or resource and the tree has a lower level or leaf level)

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

Art Unit: 2616

pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim14-19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Referring to claims 14-19, where in the specification does the applicant specifically define “means for receiving requests, means for hierarchically resolving, and means for receiving”.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-24 are rejected as being indefinite because the applicant does not follow through on antecedent basis, inconsistent refers to requester and nodes etc. There is inconsistent usage of antecedent basis and the steps do not clearly relate to each other in the claim language. The examples to follow focused on claims 1-19 but these same problems are also in claims 20-24. The examples to follow do not contain all of the errors in the claims but are representative.

Referring to claim1, it is unclear whether the applicant is claiming logic or apparatus or method; furthermore, it is unclear whether the logic performs the steps associated with the nodes.

Referring to claim 1, applicant uses inconsistent terminology such as N requesting entities and N corresponding requesters in the claim language which makes the claim unclear. Are the “N requesting entities” the same as “requester”? The applicant used “leaf node” root note, node and internal node and then logic refers to said subtree’s nodes which nodes are referred to “leaf node, node , root mode , or internal node”. What is meant by “its” and “some”?

What is meant by “wherein each leaf node”? “leaf node” has antecedent basis.

What is meant by “operable to”? “operable to” is interpreted as intended use.

Referring to claims 2-14, “among n requesting entities” has antecedent basis.

Referring to claim 4, what is meant by “its” and “at least one leaf node” has antecedent basis.

Referring to claims 5-14, the applicant has used "internal node", "combinational circuitry" both of which have antecedent basis.

Claims 14-19 are rejected as being indefinite because the specification does not clearly point out "means for receiving requests, means for hierarchically resolving, and means for receiving". How can one assess the metes and bound of the claims if one cannot tell what specific means is doing each of the steps.

Referring to claim 16, what is meant by "some"?

Referring to claim 20, what is meant by "operable to" ? "operable to" reflects intended use.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W. Wilson whose telephone number is 571/272-3075. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D. VU can be reached on 571/272-73155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/626,424

Page 6

Art Unit: 2616

Robert W. Wilson

Robert W Wilson
Examiner
Art Unit 2616

RWW

3/22/07